

## **PERLESTA GOLCONDA (PLECOPTERA: PERLIDAE), A NEW STONEFLY SPECIES FROM ILLINOIS<sup>1</sup>**

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**ABSTRACT:** The male, female, and egg of a new species of perlid stonefly, *Perlesta golconda* are described. Most specimens were captured from the banks of the Ohio River at Golconda, Illinois. This species is most similar to *P. lagoi* Stark, but may be differentiated by wing and body coloration, the male internal genitalia, and egg morphology. The addition of *P. golconda* brings to 16 the total number of known *Perlesta* species.

Stark (1989) recognized *Perlesta placida* (Hagen) as a species complex nearly a decade ago. He described seven new species and revised and keyed another five species from eastern North America. Shortly thereafter, Poulton and Stewart (1991) added *P. fusca* from Arkansas. Recently, Kirchner and Kondratieff (1997) described *P. teaysia* from Virginia, and Stark and Rhodes (1997) added *P. xube* from Nebraska. During statewide monitoring of sensitive aquatic insects in Illinois, this new species was collected from the banks of the Ohio River near Golconda, Illinois.

### ***Perlesta golconda* DeWalt and Stark, NEW SPECIES**

**Male.** Forewing length from 10.5 to 11 mm. General color pale yellow-brown. Ocellar patch diffuse mesally, but with dark bars almost connecting lateral ocelli to anterior ocellus (Fig. 1). Wing membrane pale amber with intercostal margin paler, veins light brown. Femora pale yellow on anterior face, but dark brown on dorsum (Fig. 3). Paraprocts short, subapical spine prominent (Figs. 2, 5). Tergum 10 sensilla basiconica patch sparse (Fig. 2). Penis tube and sac moderately long and sinuate (Fig. 6); dorsal patch broad and with narrow lateral bands of larger seta-like spines giving a distinctly darker aspect (Fig. 7). Caeum poorly developed; ventral base of sac with a small nipple (Fig. 6). Ventral extension of aedeagus was only partially everted (Fig. 6), but appeared to be long and narrow.

**Female.** Forewing length from 13 to 14 mm. Body and wing coloration similar to the male. Subgenital plate lobes rounded, separated by a V-shaped notch; lobes with about 10 scattered large bristles each (Fig. 4).

**Egg.** The two females produced only poorly sclerotized eggs, but they were sufficiently developed to demonstrate a smooth, to slightly granular chorion (Fig. 8). The egg collar was sessile and the anchor fibrous.

**Nymph.** Unknown.

**Types.** The holotype male and paratypes consisting of one male and two females were deposited at the Illinois Natural History Survey (INHS), Champaign, Illinois.

**Type locality.** The holotype male and a male and female paratype were collected from the Ohio River at Golconda, Pope County, Illinois, on 25 June 1997. Universal transverse mercator coordinates are zone 16, 368,710 m easting, and 3,600,000 m northing (1927 North American

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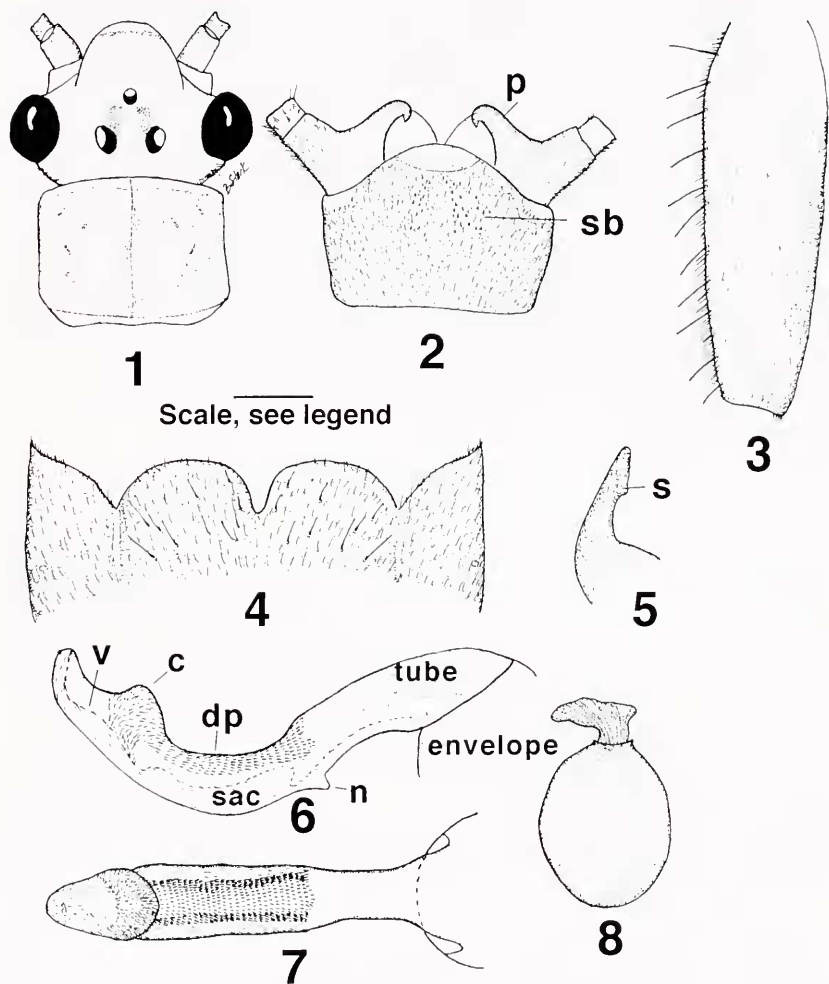


Fig. 1-8. *Perlesta golconda* : 1. Male head and pronotum. 2. Male tergum 10, sb = sensilla basiconica, p=paraproct. 3. Male right fore femur. 4. Female sternum. 5. Male paraproct, lateral, s=spine. 6. Aedeagus, lateral, c=caecum, dp=dorsal patch, n=nipple, v=ventral extension. 7. Aedeagus, dorsal. 8. Egg. Scales: 0.6 mm (1), 0.3 mm (2-4), 0.15 mm (5-8).

Datum). They were collected from a black light trap (2030-2115 CST, 26.1°C air temperature) by R. E. DeWalt and L. J. Peraino. Another paratype female was taken from along the Ohio River in Elizabethtown, Hardin County, Illinois, 30 June 1993, by M. A. Harris and H. E. Kitchel.

**Etymology.** *Perlesta golconda* is named for the town along the Ohio River where the majority of specimens were collected.

## DISCUSSION

*Perlesta golconda* most closely resembles *P. lagoi* Stark. It may be differentiated from the latter by its lighter wing and body coloration, by the dorsal setal patch of the aedeagus forming two prominent, lateral bands (Fig. 6, 7), by the absence of egg follicular cell impressions, and by a sessile egg collar (Fig. 8). *Perlesta lagoi* has the typical dark brown wings of the genus, a dorsal patch composed of a single, wide row of spines, and the egg has a button-like collar and wide, circular, follicular cell impressions (Stark 1989). Additional specimens of *P. golconda* may demonstrate the usefulness of the pigment patterns of the ocellar patch and fore femora for identification. No nymphs of *P. golconda* were available for comparison to its congeners.

Associated species in the light trap collection were the stonefly *Isoperla bilineata* (Say), the mayflies *Hexagenia bilineata* (Say), *Stenacron interpunctatum* (Say), *Leucrocota* sp., *Stenonema* sp., the caddisflies *Hydroptila waubesiana* Betten, *Potamyia flava* (Hagen), *Neureclipsis crepuscularis* (Walker), *Hydropsyche orris* Ross, *Nectopsyche candida* (Hagen), *Ceraclea* sp., and the megalopteran *Neohermes* sp. Two species of *Perlesta* are now known from Illinois. The other species, *P. decipiens* (Walsh), occurs statewide and was reported by Harris and Webb (1995).

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